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Department Response to Comment 3: The department appreciates and respects Dr. Luke's comments and expertise on the potential impacts of mercury to the environment and human health.

The departments reasoning behind proposing a change to mercury is based on the most current science. The historical criteria of 0.012 µg/L is derived from the bioconcentration factor of 81,700 for methylmercury calculated in 1975. The proposed criteria is the most recent USEPA criteria recommendation (CWA Section 304(a)) for the protection of aquatic life.

The department has been cautious in reacting to the newer recommended criteria for reasons like those pointed out by Dr. Luke. It is a large increase over what was in presumed safe in 1975 and is it truly protective based on all the possible pathways for mercury to get into the ecological system. In reviewing the proposed change to mercury, the department looked at the safety factors supplied by other standard criteria and it is confident that aquatic life can be protected, without placing additional risk to non-aquatic animals and humans through the implementation of other criteria.

For example, the Mercury criteria in place to ensure human health protection are the human health criteria of 0.05 µg/L for two routes of exposure (ingestion and drinking) and 0.051 µg/L for a single route of ingestion (Standards of Quality for Waters of the State, Table 2). Another example is the mercury criteria for fish consumption based on 0.3 µg/L and adjusted for sensitive populations. For example, based on 8 meals of fish/month the criteria from fish consumption is 0.30 µg/L for the general population, 0.2 µg/L for children 6 to 15 years of age, 0.10 µg/L for pregnancy and nursing woman, 0.067 µg/L for children under 6 (A Guide to Safe Eating of Fish Caught in North Dakota, July 2003).

While outside the scope of this review, Dr. Luke does ask two important questions: "(1) Why there has not been a repeat evaluation of mercury levels in fish for human consumption in about 20 years and (2) why is there so little data on present mercury levels in North Dakota's waters?" The department agrees this would be useful and as a solution will restart the fish flesh mercury surveillance the summer of 2021 and investigate the possibility of adding mercury to its ambient stream and lake monitoring network.

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